DIAGNOSTICS

Fear of venepuncture as a barrier to testing for blood-borne infection and use of an oral fluid test as an alternative to venepuncture in a genitourinary medicine clinic

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Objective: A survey of 505 consecutive patients attending a UK genitourinary medicine clinic (GUM) included a psychometric tool to compute a fear of venepuncture (FOV) score, responses to the offer of venepuncture and to alternative testing.
Method: An oral fluid test (OFT) was available to test for blood-borne infection (BBI). Completed fear scores were provided by 299 (59%) patients routinely offered venepuncture, of whom 72 (24%) who did not have venepuncture had higher fear scores compared with 227 (76%) who had venepuncture ($p<0.001$).
Results: Both FOV and female sex were independent predictors of not having venepuncture.
Conclusions:: FOV is an important barrier to uptake of venepuncture. FOV maynot always be recognised by health carers. OFT is an acceptable alternative test for some patients with needle aversion who decline venepuncture.

Venepuncture is essential for both healthcare and infection surveillance in genitourinary medicine (GUMed) clinics, but little is known about the effect of fear of venepuncture (FOV) on the uptake of testing for blood-borne infections (BBIs). Oral fluid testing (OFT) is an acceptable alternative testing method for HIV1 antibody.[1 2]

A survey of 505 (272 (54%) men and 233 (46%) woman) consecutive patients routinely offered venepuncture in an UK GUMed clinic was carried out in 2004. All patients were offered a short, self-report questionnaire composed of the Diabetes Fear of Injecting and Self-testing Questionnaire[3] to compute an FOV score, and questions on the offer and uptake of venepuncture, and testing without a needle. Responses were linked to case note data. OFT was available to test for BBI (HIV, syphilis and hepatitis B) at the discretion of healthcare staff. The main outcome measured was any difference in FOV in patients having and not having venepuncture. Explanations for venepuncture not being done were sought, and the uptake of OFT was studied. The Mann–Whitney U test was used to compare fear scores of patients having and not having venepuncture. Multivariate logistic regression analysis was performed using the Stata V.8 program[4] to investigate possible interactions between fear scores and other measured explanatory variables in relation to the uptake of venepuncture.

Completed fear scores were provided by 299 (59%) patients. Of these, 72 (24%) patients not having venepuncture were more likely to have higher fear scores compared with 227 (76%) patients who had venepuncture (mean score ranks 218.6 and 128.3, respectively; $p<0.001$). In a logistic regression model, after controlling for other explanatory variables, both increasing fear score and being a woman predicted an increased likelihood of not having venepuncture. The 7.7% decrease in odds of having venepuncture per point increase in fear score (range 0–27) is a strong effect in patients with high fear scores (table 1).

Overall, venepuncture was performed for 202 (74%) men and 139 (60%) women, with failed attempts for 1 (0.3%) man and 7 (3%) women. Of the 156 patients who did not have venepuncture, explanations were found in the case notes of only 53 (34%) patients, comprising deferment, 14 (26%); aversion to needles, 11 (21%); antenatal testing, 9 (17%); low risk, 6 (11%); previous recent testing, 5 (9%); testing by the Blood Transfusion Service, 4 (8%); unable to wait, 2 (4%); and unwell, 2 (4%) cases. However, of 97 (62%) for whom no explanation was recorded in the case notes, 45 (46%) patients provided a reason in the questionnaire comprising aversion to needles, 23 (51%); not wanting to be tested, 12 (27%); not having time, 5 (11%); not at risk, 2 (4%); anxiety about possible results, 2 (4%); and deferment, 1 (2%). There were incomplete records of venepuncture being offered for the remaining 6 (3%) patients. In all, 30 patients described aversion to needles in the questionnaire; none of whom had venepuncture and 28 provided fear scores, 26 (93%) of which were above the 80th centile of the total population of fear scores.

OFT was obtained for 25 patients who declined venepuncture, and for seven failed venepuncture cases, increasing testing for BBI by 6% to 74%. Of the 156 patients not having

Table 1 Multiple logistic regression model for uptake of venepuncture in patients providing fear scores (n = 299)

Variable (value)	OR	% Change in odds (odds of 1 *v* 0)	p Value	OR (95% CI)
Fear score (0–27)	1.08	7.7	0.000	1.03 to 1.12
Sex (male = 1, female = 0)	1.72	62.9	0.049	1.00 to 2.94
Age (natural logarithm of age)	2.28	113.3	0.078	0.91 to 5.68
Current STI* (1 if present, 0 otherwise)	0.78	−21.8	0.372	0.45 to 1.35
Previous STI* (1 if present, 0 otherwise)	1.11	15.0	0.770	0.56 to 2.19
Tested for chlamydia or gonorrhoea (yes = 1, no = 0)	1.62	55.6	0.214	0.76 to 3.46
Number of contacts in previous 6 months (0–20)†	1.04	4.3	0.357	0.96 to 1.13
Non-white (1 if non-white, 0 otherwise)	2.38	138.9	0.102	0.84 to 6.79

STI, sexually transmitted infection.
*Blood-borne infection coded as 0s.
†Three commercial sex workers were assigned the highest number of contacts recorded for non-commercial sex workers

Abbreviations: BBI, blood-borne inection; FOV, fear of venepuncture; GUMed, genitourinary medicine, OFT; oral fluid testing,

venepuncture, 67 (43%) commented on the acceptability of testing without a needle. Of these, 48 (72%) indicated that OFT was an acceptable alternative, but only 21 (44%) had OFT done. All of these 21 patients provided fear scores and 17 (81%) patients scored above the 80th centile of the total population fear scores. Of the 27 (56%) patients not having OFT, 25 (93%) provided fear scores, of whom 13 (52.0%) scored above the 80th centile of the total population fear scores, including 10 (77%) patients who described aversion to needles in the questionnaire. A total of 19 (28%) patients did not find OFT to be acceptable, or were unsure about this.

This study suggests that aversion to needles is an important factor in reducing uptake of venepuncture for BBI testing, and may not be recognised by healthcare professionals. GUMed consultants did not cite FOV as a barrier to increasing the rate of testing in a recent survey[5] of HIV screening in UK GUMed clinics. However, one fifth of non-selected men and women in a GUMed clinic refused testing for herpes simplex virus antibodies because of the fear of blood tests.[6] Our study also shows that a group of patients with aversion to needles may be appropriately selected for OFT in a GUMed clinic. More intervention-based research aimed at improving uptake of testing for BBI is needed. Finally, this study also helps validate the Diabetes Fear of Injecting and Self-testing Questionnaire in a GUMed clinic setting.

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This study was approved by the local research ethics committee (Hull & East Riding, University of Hull), and patient consent was obtained. The study obtained the relevant NHS management approval set out in the UK *Framework for Research Governance in Health and Social Care*, including successful peer review.

Copies of the questionnaire are available on request from H L McClean.

H L McClean conceived and designed the study, collected and analysed the data, and prepared drafts, and is the guarantor. A T carried out the logistic regression analyses and contributed towards data interpretation and writing of the paper. A M helped with the study design and interpretation of study findings.

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